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AUTHOR Ronacher, Karl; And Others
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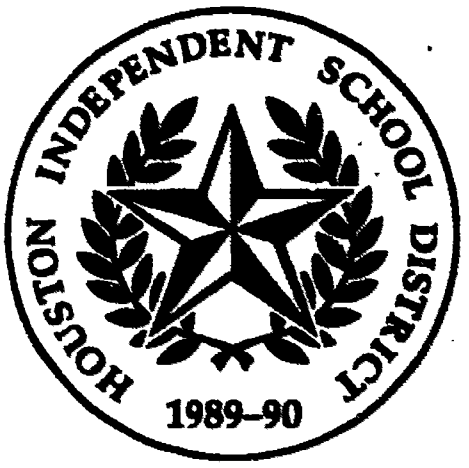
ABSTRACT

The Required Academic Proficiency (RAP) program was established by the Houston (Texas) Independent School District to reduce and remediate the academic failure of students. The purpose of the RAP program was twofold: (1) to provide supplemental instruction to students identified as being at risk of failing academic subjects; and (2) to provide additional instructional support designed to increase the percentages of students mastering achievement tests. RAP sessions, which were held for seven Saturdays during the spring 1990 semester, offered instruction in the following content areas: (1) intensive achievement test preparation; (2) English-as-a-Second-Language (ESL) reading development; (3) writing skills development; (4) fundamental concepts of mathematics; (5) study skills; (6) life skills; and (7) enrichment activities. This report evaluates the effectiveness of the RAP program. The tasks of the inquiry were to: (1) describe demographic data of program and comparison students; (2) analyze data collected for program and comparison students; and (3) conduct site visits to the five RAP academies. Findings indicate benefits for nontargeted students who attended RAP but no appreciable success in improving the grades of the targeted students. It is recommended that the program be redefined to encourage a more diversified student participation. The report includes statistical data in 28 tables and 9 graphs. (AF)

Required Academic Proficiency (RAP) Program: Final Report



Houston Independent School District
Department of Research & Evaluation

Ronacher, Karl, M.B.A.
Tullis, Richard, Ed.D.
Sanchez, Kathryn S., Ed.D.

HISD

Joan M. Raymond
General Superintendent

EXECUTIVE SUMMARY
REQUIRED ACADEMIC PROFICIENCY (RAP) PROGRAM
FINAL REPORT JUNE 1990

Purpose

The Houston Independent School District (HISD) initiated the program under the provisions of Texas House Bill 72 (Article 4, Part A, Section 21.103), which states: "Each school district shall provide tutorial services at the district's schools."

Program Description

The Required Academic Proficiency (RAP) program was established by HISD to reduce and remediate the academic failure of students. The purpose of the RAP program was twofold: (a) to provide supplemental instruction to students identified as being at–risk of failing academic subjects, and (b) to provide additional instructional support designed to increase the percentages of students mastering the TEAMS sub–tests. RAP sessions were held for seven Saturdays during the spring semester. Each Saturday contained 2 one and one half hour sessions. Spring RAP sessions began March 17, 1990 and ended May 19, 1990. Sessions enabled students to receive instruction in the content areas where they most needed assistance. Instruction was given in: (a) intensive TEAMS preparation, (b) ESL/reading development, (c) writing skills development, (d) mathematics (fundamental concepts), (e) study skills, (f) life skills, and (g) enrichment activities.

Number Served and Cost

An eligible student is a student who had one or more course failures during a six week grading period or failed one or more sections of the TEAMS sub–tests. Attendance was not mandatory. All students attending a secondary school could attend whether or not they met the eligibility requirements. From a total high school population of 44,666 a total of 17,453 students were eligible for RAP. The total number of students served was 1,788. The average number of students attending the 5 RAP academies was 1,142.

Methods

Various methods of presenting the demographic data were used in this report including crosstabulations, graphs, charts, and a sort procedure. Analysis of covariance was used to analyze the data. Fourth grading period grades were used as the covariate and 6th grading period grades were used as the dependant variable. Oneway analysis of variance was used to test for between group differences. Subject groups consisted of eligible/attending, eligible/not–attending, not–eligible/attending, and not eligible/not attending. An omega squared coefficient was used to identify the degree of association (which measures the effect of the program). Finally, Sheffe's test for homogeneity of variance was used to see what grouping elements were contributed to the noted differences.

Findings

The results of this study demonstrated that RAP program effects accounted for 4 to 6 percent of the differences in achievement scores. Although the program was marginally effective, it was not a contributor to the academic success/failure of those students who were eligible and attended. Furthermore, the program appeared to benefit only those students who were not eligible but still chose to attend.

The RAP program was successful for those students who did not meet RAP eligibility requirements, but attended the tutorial. For this group alone, there was no decline of grades from the 4th to the 6th grading period. In mathematics and English, the grades of this group improved. This could be interpreted as meaning the students were more motivated as compared to the at–risk students and, therefore, performed better in their respective 6th grading period grades. The fact that the program was successful in increasing the academic performance of any group is a significant finding.

DESIGN OF THE INQUIRY

The purpose of this inquiry was to evaluate the effectiveness of the Required Academic Proficiency (RAP) program.

The specific tasks of the inquiry were to:

- Describe demographic data of program and comparison students.
- Conduct an analysis of data collected for the program and comparison students.
- Conduct site visits to the five RAP Academies.

This program evaluation answers the following research questions:

Research Question 1:
What information did prior HISD research yield concerning tutorials?

Research Question 2:
(a) What were the demographic characteristics of RAP eligible students?
(b) What were the demographic characteristics of RAP eligible/attending students?
(c) What were the demographic characteristics of RAP eligible/non–attending students?

Research Question 3:
How many students attended the RAP Academies during spring term?

Research Question 4:
How often did those attending the RAP tutorials actually show up?

Research Question 5:
Is there a difference in the demographics of attending and non–attending eligible students?

Research Question 6:
Is there a difference in the 6th grading period grades of those attending the RAP program and those not attending?

Research Question 7:
What was observed during site visits?

Research Question 8:
Did the RAP program reach the at–risk students described in the program proposal?

Research Question 9:
Was there a difference in the English, math, social studies, and science grades of those students attending and those students not attending RAP?

MOTIVATION FOR CONDUCTING THE STUDY

Why was this study conducted?

This study was conducted for the following reasons:

Requirements of the State: The Houston Independent School District (HISD) initiated the program under the provisions of Texas House Bill 72 (Article 4, Part A, Section 21.103), which states, "Each school district shall provide tutorial services at the district's schools."

Benefits to Houston ISD: This report provides information on the effectiveness of RAP tutorials to improve course grades and achievement test scores.

PROGRAM DESCRIPTION

What was the focus of the Required Academic Proficiency for 1989–90?

Purpose: The Required Academic Proficiency (RAP) program was established by HISD to reduce and remediate the academic failure of students. The purpose of the RAP program was twofold: (a) to provide supplemental instruction to students identified as being at–risk of failing academic subjects, and (b) to provide additional instructional support designed to increase the percentages of students mastering the TEAMS sub–tests.

Number Served and Cost: An eligible student is a student who had one or more course failures during a six week grading period or failed one or more sections of the TEAMS sub–tests. Attendance was not mandatory. All students attending a secondary school could attend whether or not they met the eligibility requirements. From a total high school population of 44,666 a total of 17,453 students were eligible for RAP. The total number of students served was 1,788. The average number of students attending the 5 RAP academies was 1,142.

The cost for hiring RAP tutorial teachers for the 5 RAP academies from 3/17/90 to 5/12/90 was $26,550. These program expenditures do not include administrative and/or fixed building costs.

Services: RAP sessions were held for seven Saturdays during the spring semester. Each Saturday contained 2 one and one half hour sessions. Spring RAP sessions began March 17, 1990 and ended May 19, 1990. Sessions enabled students to receive instruction in the content areas where they most needed assistance. Instruction was given in: (a) intensive TEAMS preparation, (b) ESL/reading development, (c) writing skills development, (d) mathematics (fundamental concepts), (e) study skills, (f) life skills, and (g) enrichment activities.

Schools: The following five campuses were selected as RAP academies to serve all eligible high school students in HISD: Lee, Sam Houston, Milby, Reagan, and Worthing.

METHODOLOGY

How were data collected for this report?

Population:

There were 44,666 students in grades 9 through 12 during the 1989–90 school year. Students were divided into two groups those eligible for RAP (n=17,453) and those not eligible for RAP (n=25,506). Within each group, a nested subgroup of those students who attended and those students who didn't attend RAP was established. An eligible student is a student who had one or more course failures and/or failed one or more sections of the TEAMS test.

Eligible to Attend (n=17,453)
- Attended (n=1072)
- Non–Attending (n=16,381)

Not Eligible to Attend (n=25,506)
- Attended (n=717)
- Non–Attending (n=24,789)

Procedure:

In order to complete this evaluation, the following computer requests were generated:

a) a list of eligible students
b) a list of eligible students who attended the program (treatment group)
c) a list of eligible students who did not attend (comparison group)
d) a list of non–eligible students who attended and
e) a statistical analyses of course grades of the treatment and comparison groups.

Statistics:

a) Crosstabulations were used to present the following student demographics:
   (1) eligibility status by ethnicity
   (2) gender by ethnicity
   (3) grade level by age

b) Chi–Square analyses were performed to analyze the semester attendance and grade data of the treatment and comparison groups.

c) A One-way ANONA was conducted to determine if there were between group differences in academic success/failure as measured by the 6th grading period grade (the dependent variable). Omega Squared was used to measure the magnitude of the effect the RAP program had on student achievement. The One-way ANOVA allows the researcher to input one independent variable (eligibility criteria). Furthermore, in the One–way ANOVA, Omega Squared can provide information on the strength of a relationship (Davis and Cosenza, 1985).

*See Appendix 1 for the percent of students attending by campus.

RESEARCH QUESTION 1

What information did prior HISD research yield concerning tutorials?

RAP evaluation fall of 1988

- The more days a student attends the RAP tutorial the higher his course grades.
- The more courses a student fails at the beginning of the semester (degree of failure) the higher his/her chance of failing at the end of the semester.
- Between 1 and 4 percent of the between group variation in final course grades can be aligned or attributed to students attendance in RAP.

HISD Senior High School Summer TEAMS Remediation Program Summer 1988:

- The cost per student was $276. Total enrollment was 264 students. The cost of the program was $72,956.
- The length of the program was 17 days with instruction provided for 4 hours each day.
- Attendance in this program was not associated with any subsequent performance on the TEAMS.

HISD Middle School Summer Remediation Program Summer 1988

- The total cost for the program was $891,698. Per student cost was not available. However, 7,904 participated in the program.
- The length of the program was 29 days.
- In general 9 of 10 students were promoted to the next grade.

Chapter II TEAMS Summer School Program 1988–89

- The cost per student was $235, based on attendance. Total enrollment was 368 students. The cost of the program was $61,653.
- The length of the program was 21 days with instruction provided for 4 hours each day.
- There was not a statistically significant difference in the TEAMS passing rates of those students in the program and those not in the program.

Observations:

- It has not been demonstrated that tutorial programs are effective in increasing either student achievement, as measured by TEAMS or teacher assigned grades.
- Attendance in the middle school program were associated with being promoted to the next grade.

RESEARCH QUESTION 2a

What were the demographic characteristics of RAP eligible students?

RAP Eligible Students By Ethnicity and Eligibility Criteria
Most recent TEAMS test; Fourth grading cycle (March, 1990)

	Eligibility Criteria					
	TEAMS Failure		Course Failure		Total	
Ethnicity	n	% of total	n	% of total	n	%
Asian	40	0.2	230	1.3	270	1.5
Black	769	4.4	6927	39.7	7696	44.1
Hispanic	581	3.3	6692	38.3	7273	41.7
Indian	0	0.0	15	0.1	15	0.1
White	106	0.6	2090	12.0	2196	12.6
Total	1496	8.6	15957	91.4	17450*	100.0

*3 missing observations

RAP Eligible Students By Ethnicity and Gender
Most recent TEAMS test; Fourth grading cycle (March, 1990)

	Gender					
	Female		Male		Total	
Ethnicity	n	% of total	n	% of total	n	%
Asian	92	0.5	178	1.0	270	1.5
Black	3550	20.3	4146	24.0	7695	44.1
Hispanic	3117	18.0	4155	24.0	7273	42.0
Indian	6	0.0	9	0.1	15	0.1
White	923	5.3	1273	7.3	2196	12.6
Total	7688	44.0	9762	56.0	17453	100.0

Observations:

- Ninety–one percent of the RAP eligible students were eligible because of course failures.
- Nine percent of the RAP eligible students were eligible because of TEAMS failures.

RAP Eligible Students By Age and Grade Level

	Grade Level									
	9th		10th		11th		12th		Total	
Age	n	%	n	%	n	%	n	%	n	%
12	2	0.0	0	0.0	0	0.0	0	0.0	2	0.0
13	129	0.7	2	0.0	0	0.0	0	0.0	131	0.8
14	2010	12.0	90	0.5	2	0.0	0	0.0	2102	12.0
15	2482	14.2	1054	6.0	104	0.6	0	0.0	3640	21.0
16	2148	12.3	1229	7.0	1298	7.4	78	0.4	4753	27.2
17	871	5.0	828	4.7	1256	7.2	1013	5.8	3968	22.7
18	216	1.2	357	2.0	761	4.4	737	4.2	2071	12.0
19	38	0.2	64	0.4	224	1.3	286	1.6	612	3.5
20	7	0.0	6	0.0	51	0.3	94	4.2	158	0.9
21	1	0.0	0	0.0	2	0.0	6	0.0	9	0.1
22	0	0.0	0	0.0	0	0.0	1	0.0	1	0.0
Total	7906	45.3	3631	20.8	3700	21.2	2216	12.7	17447*	100.0

*6 Missing Observations

Students By Grouping Factor and Content Area Means

	Content Area Means					
	English		Math		Soc. Studies	Science
Age	4th	6th	4th	6th	4th	6th
Eligible/Attending	70.0	71.8	70.0	68.2	71.8	69.3
Eligible/Non–Attending	72.4	71.4	72.4	69.	72.8	71.1
Non–Eligible/Attending	76.8	81.1	76.8		81.1	78.4
Non Eligible/Non–Attending	81.2	81.8	81.2		83.1	81.8

Observations:

- Forty–five percent of the RAP eligible students were in the 9th grade.
- Seventy–one percent of all RAP eligible students were between 15 and 17 years old.

RESEARCH QUESTION 2b

What were the demographic characteristics of RAP eligible/attending students?

RAP Eligible/Attending Students By Ethnicity and Gender

	Gender					
	Female		Male		Total	
Ethnicity	n	% of total	n	% of total	n	%
Asian	6	0.6	5	0.5	11	0.5
Black	158	14.7	155	14.5	313	14.5
Hispanic	292	27.2	309	28.8	601	56.1
Indian	1	0.1	0	0.0	1	0.1
White	69	6.4	77	7.2	146	13.6
Total	526	49.1	546	50.9	1072	100.0

RAP Eligible/Attending Students By Age and Grade Level

	Grade Level								Total	
	9th		10th		11th		12th			
Age	n	%	n	%	n	%	n	%	n	%
13	12	1.1	0	0.0	0	0.0	0	0.0	12	1.1
14	151	14.1	6	0.6	0	0.0	0	0.0	157	14.6
15	170	15.9	72	6.7	6	0.6	0	0.0	248	23.1
16	131	12.2	69	6.4	70	6.5	3	0.3	273	25.5
17	53	4.9	40	3.7	71	6.6	42	3.9	206	19.2
18	11	1.0	23	2.1	38	3.5	39	3.6	111	10.4
19	2	0.2	4	0.4	21	2.0	20	1.9	47	4.4
20	0	0.0	1	0.1	3	0.3	14	1.3	18	1.7
Total	530	49.4	215	20.1	209	19.5	118	11.0	1072	100.0

Observations:

- Fifty–six percent of the RAP Eligible/Attending students were Hispanic.
- Forty–nine percent of the RAP Eligible/Attending students were in the 9th grade.

RESEARCH QUESTION 2c

What were the demographic characteristics of RAP Eligible/Non–attending students?

RAP Eligible/NonAttending Students By Ethnicity and Gender

	Gender					
	Female		Male		Total	
Ethnicity	n	% of total	n	% of total	n	%
Asian	86	0.5	173	1.1	259	1.6
Black	3392	20.7	3991	24.4	7383	45.1
Hispanic	2826	17.3	3846	23.5	6672	40.7
Indian	5	0.0	9	0.1	14	0.1
White	853	5.2	1197	7.3	2050	12.5
Total	**7162**	**43.7**	**9216**	**56.3**	**16378**	**100.0**

RAP Eligible/Non–Attending Students By Age and Grade Level

	Grade Level								Total	
	9th		10th		11th		12th			
Age	n	%	n	%	n	%	n	%	n	%
12	2	0.0	0	0.0	0	0.0	0	0.0	2	0.0
13	126	0.8	2	0.0	0	0.0	0	0.0	128	0.8
14	1863	11.4	88	0.5	2	0.0	0	0.0	1953	11.9
15	2310	14.1	984	6.0	106	0.6	0	0.0	3400	20.8
16	2010	12.3	1162	7.1	1226	7.5	79	0.5	4477	27.3
17	813	5.0	781	4.8	1176	7.2	977	6.0	3747	22.9
18	205	1.3	333	4.4	718	4.4	702	4.3	1958	12.0
19	37	0.2	60	1.2	200	1.2	265	1.6	562	3.4
20	6	0.0	5	0.3	45	0.3	82	0.5	138	0.8
21	1	0.0	0	0.0	2	0.0	6	0.0	9	0.1
22	0	0.0	0	0.0	0	0.0	1	0.0	1	0.0
Total	**7375**	**45.0**	**3416**	**20.9**	**3477**	**21.2**	**2113**	**12.9**	**16381**	**100.0**

*6 Missing Observations

Observations:

- Forty–five percent of the RAP Eligible/Non–Attending students were Hispanic and 40 percent were Black.
- Forty–five percent of the RAP Eligible/Non–Attending students were in the 9th grade.

RESEARCH QUESTION 2d

What were the demographic characteristics of RAP Non–Eligible/attending students?

RAP Non–Eligible/Attending Students By Ethnicity and Gender

	Gender					
	Female		Male		Total	
Ethnicity	n	% of total	n	% of total	n	%
Asian	14	2.0	8	1.1	22	3.1
Black	121	16.9	126	17.6	247	34.4
Hispanic	192	26.8	139	19.4	331	46.2
Indian	0	0.0	0	0.0	0	0.0
White	59	8.2	58	8.1	117	16.3
Total	**386**	**53.8**	**331**	**46.2**	**717**	**100.0**

RAP Non–Eligible/Attending Students By Age and Grade Level

	Grade Level									
	9th		10th		11th		12th		Total	
Age	n	%	n	%	n	%	n	%	n	%
12	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
13	9	1.3	0	0.0	0	0.0	0	0.0	9	1.3
14	114	15.9	7	1.0	0	0.0	0	0.0	121	16.9
15	88	12.3	106	14.8	6	0.8	0	0.0	200	27.9
16	62	8.6	62	8.6	88	12.3	6	0.8	218	30.4
17	20	2.8	27	3.8	25	3.5	33	4.6	105	14.6
18	9	1.3	12	1.7	12	1.7	19	2.6	52	7.3
19	0	0.0	1	0.1	2	0.3	7	1.0	10	1.4
20	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
Total	**303**	**42.3**	**216**	**30.1**	**133**	**18.5**	**65**	**9.1**	**717**	**100.0**

Observations:

- Forty–six percent of the RAP Non–Eligible/Attending students were Hispanic and 34 percent were Black.
- Forty–two percent of the RAP Non–Eligible/Attending students were in the 9th grade.

RESEARCH QUESTION 2e

What were the demographic characteristics of RAP Non–Eligible/Non–attending students?

RAP Non–Eligible/Non–Attending Students By Ethnicity and Gender

	Gender					
	Female		Male		Total	
Ethnicity	n	% of total	n	% of total	n	%
Asian	557	2.2	620	2.5	1177	4.7
Black	5636	22.7	4596	18.5	10232	41.3
Hispanic	3994	16.1	3773	15.2	7767	31.3
Indian	14	0.1	11	0.0	25	0.1
White	2876	11.6	2712	10.9	5588	22.5
Total	**13077**	**52.8**	**11712**	**47.2**	**24789**	**100.0**

RAP Non–Eligible/Non–Attending Students By Age and Grade Level

	Grade Level								Total	
	9th		10th		11th		12th			
Age	n	%	n	%	n	%	n	%	n	%
12	4	0.0	0	0.0	0	0.0	0	0.0	4	0.0
13	318	1.3	3	0.0	0	0.0	0	0.0	321	1.3
14	3219	13.0	330	1.3	11	0.0	1	0.0	3561	14.4
15	2107	8.5	3231	13.0	288	1.2	5	0.0	5631	22.7
16	1310	5.3	1578	6.4	2954	11.9	405	1.6	6247	25.2
17	447	1.8	775	3.1	1136	4.6	3603	14.5	5961	24.0
18	92	0.4	280	1.1	427	1.7	1371	5.5	2170	8.8
19	33	0.1	52	0.2	116	0.5	448	1.8	649	2.6
20	2	0.0	10	0.0	27	0.1	126	0.5	165	0.7
21	1	0.0	3	0.0	2	0.0	61	0.2	67	0.3
22	0	0.0	0	0.0	0	0.0	1	0.0	1	0.0
Total	**7533**	**30.4**	**6262**	**25.3**	**4961**	**20.0**	**6025**	**24.3**	**24795**	**100.0**

*18 Missing Observations

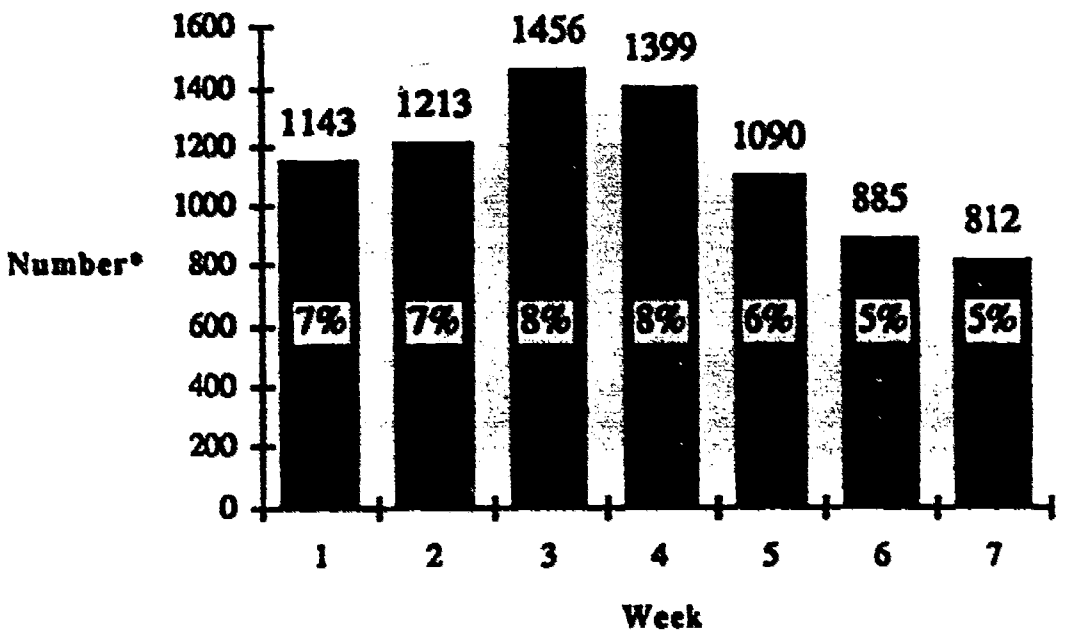
Observations:

- Forty–one percent of the RAP Non–Eligible/Non–Attending students were Black and 31 percent were Hispanic.
- Thirty percent of the RAP Non–Eligible/Non–Attending students were in the 9th grade.

RESEARCH QUESTION 3

How many students attended the RAP Academies during spring term?

Number of Students Attending RAP by Week
Number Eligible = 17,453



*The number attending includes non-eligible and eligible students who attended tutorials.

RAP Attendance By Academy and Week

	Weeks						
	3/17	3/24	3/31	4/21	4/28	5/05	5/12
Academy	n	n	n	n	n	n	n
Sam Houston	408	282	453	487	226	138	139
Lee	294	378	439	323	301	214	230
Milby	225	231	198	182	144	131	99
Reagan	100	118	115	104	110	62	91
Worthing	116	204	251	303	309	340	253
Total	**1143**	**1213**	**1456**	**1399**	**1090**	**885**	**812**

Trend:

- RAP attendance peaked on the 3rd week of classes with 1,456 students in attendance as compared to the 7th week with 812 in attendance.

RESEARCH QUESTION 4

How often did those attending the RAP tutorials actually show up?

Frequency of RAP Student Attendance By Eligibility Status and Days in Attendance

	Days in Attendance								Total	
	1		2–3		4–5		6–7			
Eligibility Status	n	%	n	%	n	%	n	%	n	%
Eligible/Attend	193	10.8	357	20.0	310	17.3	210	11.7	1072	60.0
Not Eligible/Attend	102	5.7	216	12.0	244	13.6	153	8.5	716	40.0
Total	295	16.5	573	32.1	554	31.0	363	20.3	1788	100.0

* 4 missing observations.

Observations:

- Sixty percent of the students attending RAP were eligible.
- Sixty–three percent of the students attending RAP attended between 2 and 5 days.

RESEARCH QUESTION 5

Is there a difference in the demographics of attending and non–attending eligible students?

Eligible Students By Ethnicity and Attendance Status*

Ethnicity	Eligible/Attending n	%	Eligible/Non–Attending n	%	Total n	%	% Eligible that Actually Attended.
Asian	11	0.1	259	1.5	270	1.5	4.0
Black	313	1.8	7383	44.1	7696	44.1	4.0
Hispanic	601	3.4	6672	41.7	7273	41.7	8.2
Indian	1	0.0	14	0.1	15	0.1	6.6
White	146	0.8	2050	12.6	2196	12.6	6.6
Total	**1072**	**6.1**	**16378**	**93.9**	**17450***	**100.0**	**6.1**

*3 missing observations

Mean Number of Days In Attendance By Academy and Eligible/Non–Eligible RAP Students

Academies	Eligible n	Mean Days Attended	Non–Eligible n	Mean Days Attended
Sam Houston	175	5.44	166	5.51
Lee	415	2.82	218	2.96
Milby	199	2.72	110	2.48
Reagan	156	3.44	61	2.65
Worthing	127	4.85	161	4.23
Total	**1072**	**3.85**	**716**	**3.56**

Observations:

- Only 6 percent of the eligible students attended RAP.
- A higher proportion of Hispanic students attended the RAP tutorials based on eligibility.
- The mean number of days an eligible RAP student attended the tutorials was 3.85 days as compared to the non–eligible student who on average attended 3.56 days.
- The average attendance at Sam Houston was above 5 sessions for both the eligible and non–eligible attending students.

RESEARCH QUESTION 6

Is there a difference in the 6th grading period grades of those attending the RAP program and those not attending?

The student groups are listed as GR1 (eligible/attending), GR2 (eligible/not attending), GR3 (not eligible/attending), and GR4 (not eligible/not attending).

Oneway ANOVA For Differences Between Student Groups in English (Dependent Variable: 6th Grading period grade)

Source of Variance	SS	DF	MSS	Calculated F
Between Groups	175168.47	3	58389.49	583.68*
Within Groups	3304089.04	33029	100.04	
Total	**3479257.52**	**33032**		

*P=.0000

There was a significant difference between the groups (F=583), however, an Omega Squared analysis of the results indicate that RAP accounts for 5 percent of the between group variance.*

Sheffe's Multiple Range Test in English

		Students Groups			
Groups	Mean	GR2	GR1	GR4	GR3
GR2	74.90				
GR1	75.44				
GR4	79.61	*	*		
GR3	80.69	*	*		

Conclusions:

The variance between the groups, after adjusting for the effects of the covariate (4th grading period grades), was not between the eligible/attending and eligible/not attending, as might be expected, but rather between the two non–eligible groups and the eligible groups. Thus, even after adjusting for the covariate, the program had no perceivable impact on the targeted population.

Oneway ANOVA For Differences Between Student Groups in Math (Dependent Variable: 6th Grading period grade)

Source of Variance	SS	DF	MSS	Calculated F
Between Groups	194354.93	3	64784.97	592.43*
Within Groups	3398363.18	31077	109.35	
Total	**3592718.11**	**31080**		

*P=.0000

There was a significant difference between the groups (F=592), however, an Omega Squared analysis of the results indicate that RAP only accounts for 5 percent of the between group variance.*

Sheffe's Multiple Range Test in Math

		Students Groups			
Groups	Mean	GR1	GR2	GR3	GR4
GR1	73.05				
GR2	73.10				
GR3	78.05	*	*		
GR4	78.20	*	*		

Conclusions:

The variance between the groups, after adjusting for the effects of the covariate (4th grading period grades), was not between the eligible/attending and eligible/not attending, as might be expected, but rather between the two non–eligible groups and the eligible groups. Thus, even after adjusting for the covariate, the program had no perceivable impact on the targeted population.

Oneway ANOVA For Differences Between Student Groups in Social Studies (Dependent Variable: 6th Grading period grade)

Source of Variance	SS	DF	MSS	Calculated F
Between Groups	106735.05	3	35578.35	379.38*
Within Groups	2381398.53	25394	93.77	
Total	**2488133.58**	**25397**		

*P=.0000

There was a significant difference between the groups (F=379), however, an Omega Squared analysis of the results indicate that RAP only accounts for 4.2 percent of the between group variance.*

Sheffe's Multiple Range Test in Social Studies

		Students Groups			
Groups	Mean	GR1	GR2	GR3	GR4
GR1	73.05				
GR2	73.10				
GR3	78.05	*	*		
GR4	78.20	*	*		

Conclusions:

The variance between the groups, after adjusting for the effects of the covariate (4th grading period grades), was not between the eligible/attending and eligible/not attending, as might be expected, but rather between the two non–eligible groups and the eligible groups. Thus, even after adjusting for the covariate, the program had no perceivable impact on the targeted population.

Oneway ANOVA For Differences Between Student Groups in Science (Dependent Variable: 6th Grading period grade)

Source of Variance	SS	DF	MSS	Calculated F
Between Groups	133712.92	3	44570.97	498.21*
Within Groups	2065743.95	23091	89.46	
Total	**2199456.87**	**23094**		

*p=.0000

There was a significant difference between the groups (F=498), however, an Omega Squared analysis of the results indicate that RAP only accounts for 6.1 percent of the between group variance.*

Sheffe's Multiple Range Test in Science

		Students Groups			
Groups	Mean	GR1	GR2	GR3	GR4
GR1	73.05				
GR2	73.10				
GR3	78.05	*	*		
GR4	78.20	*	*		

Conclusions:

The variance between the groups, after adjusting for the effects of the covariate (4th grading period grades), was not between the eligible/attending and eligible/not attending, as might be expected, but rather between the two non–eligible groups and the eligible groups. Thus, even after adjusting for the covariate, the program had no perceivable impact on the targeted population.

RESEARCH QUESTION 7

What was observed during site visits?

During the spring semester all 5 RAP Academies were visited by the Research and Evaluation Department. Observations were made in three classrooms at each of the 5 RAP Academies. A student count and content area observation was made in each classroom. Additional questions were asked of the RAP coordinator and in some circumstances the building administrator. Below are the results of all the site visits:

Results:

- Eighty percent of the RAP Academies use peer tutors.
- All of the RAP Academies use volunteers from the public when possible.
- The average class size during the observations was 15 students.
- Generally, when each class was visited all students were on task.
- Mathematics and ESL classes had the greatest number of students.

RESEARCH QUESTION 8

Did the RAP program reach the at–risk students described in the program proposal?

Sorted Percentage of RAP Eligible/Attending Students By Campus

Campus	Eligible	Attending	% Attending
Lee	1003	260	25.9
Sharpstown	679	112	16.5
Sam Houston	1273	167	13.1
Reagan	777	102	13.1
H. P. Carter	65	8	12.3
Milby	1435	160	11.1
Worthing	450	48	10.6
HSHP	138	13	9.4
HSPVA	110	8	7.0
Jones	540	23	4.2
Sterling	626	27	4.0
Washington	560	22	3.9
Bellaire	832	32	3.8
Jordan	563	8	3.8
HSLECJ	203	6	2.9
CLC	43	1	2.3
Austin	1578	26	2.0
Waltrip	627	14	2.0
Westbury	640	11	1.7
Lamar	835	14	1.0
Davis	586	2	0.0
Furr	445	1	0.0
Kashmere	657	1	0.0
Madison	812	5	0.0
Comm. Services	10	0	0.0
Wheatley	493	0	0.0
Yates	905	7	0.0
Foley's	2	0	0.0
Scarborough	362	2	0.0
Kay On-Going	59	0	0.0
Night High School	61	0	0.0
COTC	70	0	0.0
Harper Skills	6	0	0.0
Total	**17453**	**1072**	**100.0**

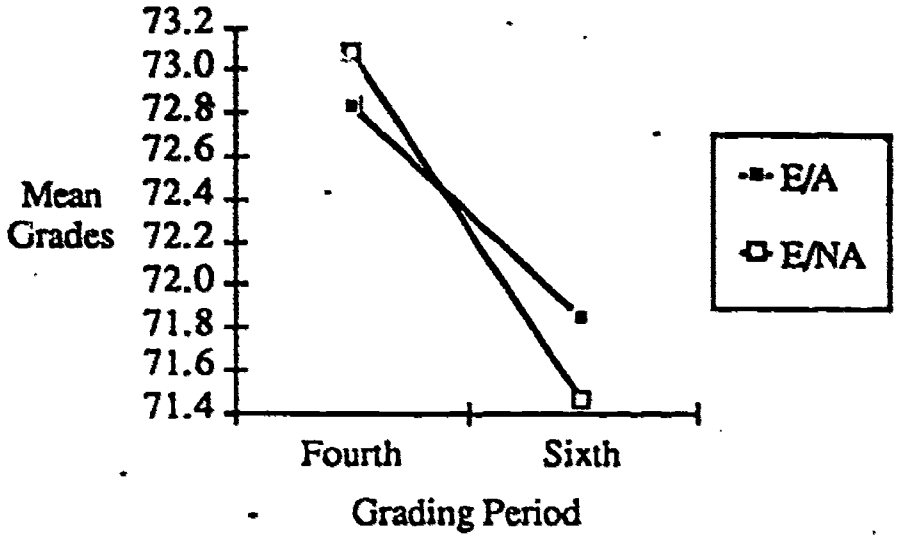
Observations:

- Eighty–two percent of the eligible/attending students were from 9 nine campuses. These campuses represent only 34% of the total eligible students. Thus, it appears that the program is not reaching a majority the eligible students.
- Thirteen schools had practically no students in RAP attendance

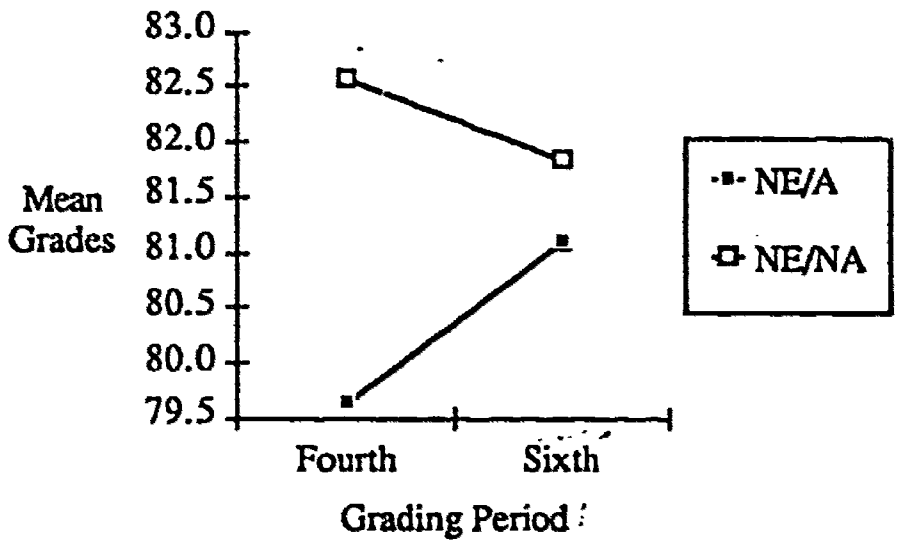
RESEARCH QUESTION 9a

Was there a difference in the English grades of those students attending and those students not attending RAP?

Comparison of Eligible Attending (EA) and Eligible Non–Attending (ENA) in English



Comparison of Non–Eligible Attending (NEA) and Non–Eligible Non–Attending (NENA) in English



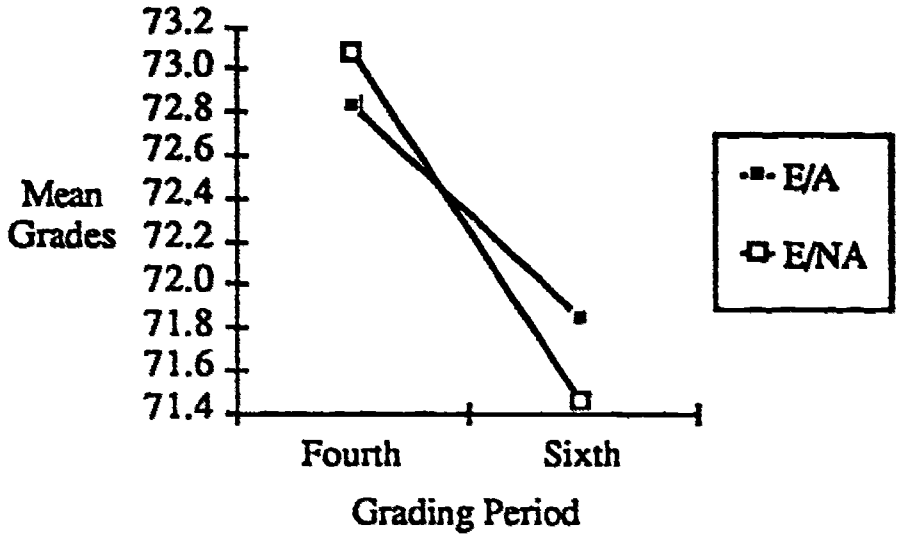
Observations:

- Eligible students attending RAP curtailed some of the decline in their respective English grades as compared to eligible students not attending RAP.
- Non–eligible students attending RAP increased their mean 4th grading period English grades as a result of attending the tutorials.

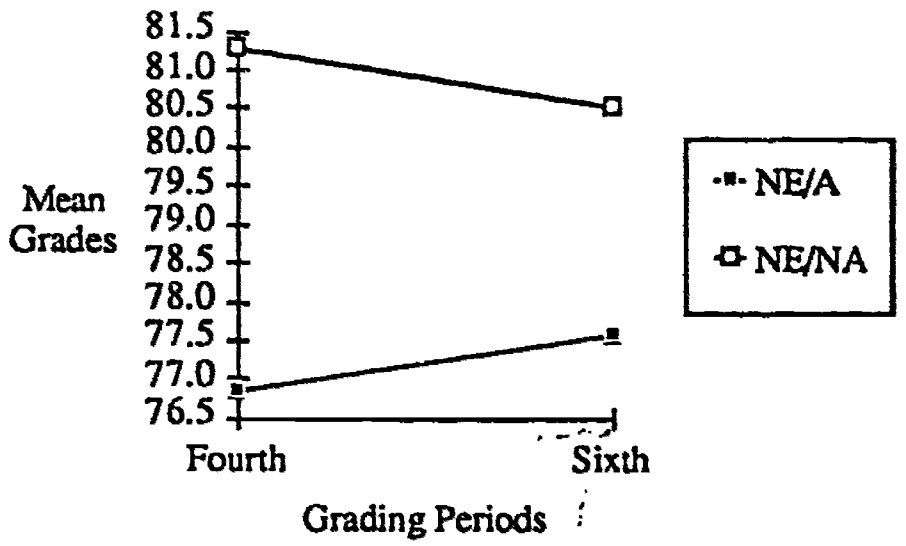
RESEARCH QUESTION 9b

Was there a difference in the Math grades of those students attending and those students not attending RAP?

Comparison of Eligible Attending (EA) and Eligible Non-Attending (ENA) in Math



Comparison of Non-Eligible Attending (NEA) and Non-Eligible Non-Attending (NENA) in Math



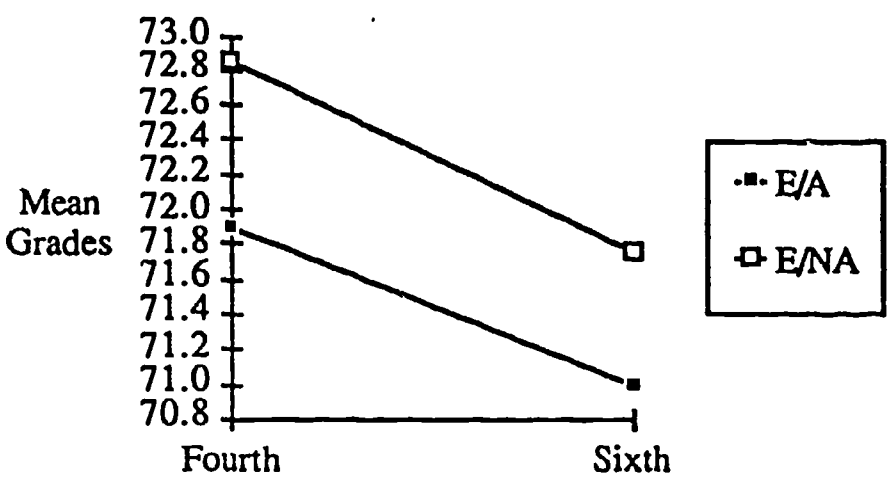
Observations:

- Eligible students attending RAP curtailed some of the decline in their math grades as compared to eligible students not attending RAP.
- Non-eligible students attending RAP increased their 4th grading period math grades as a result of attending the tutorials.

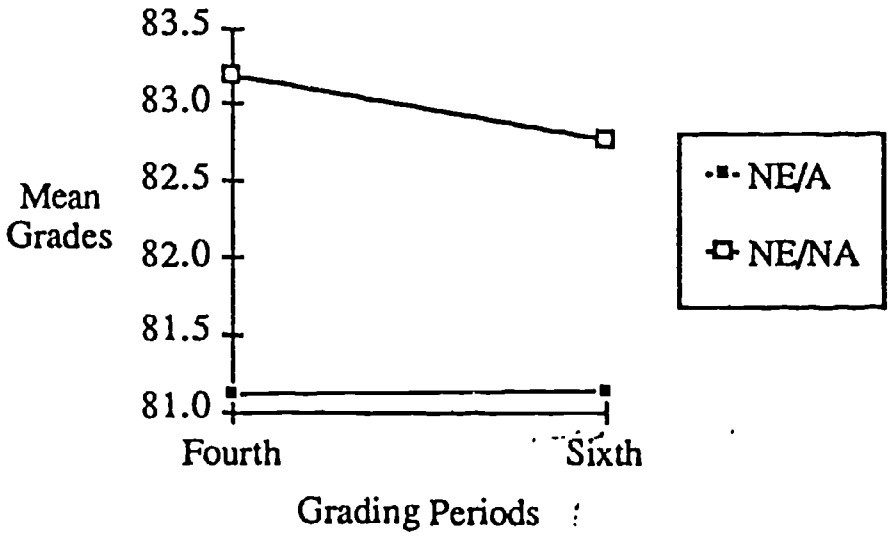
RESEARCH QUESTION 9c

Was there a difference in the Social Studies grades of those students attending and those students not attending RAP?

Comparison of Eligible Attending (EA) and Eligible Non–Attending (ENA) in Social Studies



Comparison of Non–Eligible Attending (NEA) and Non–Eligible Non–Attending (NENA) in Social Studies



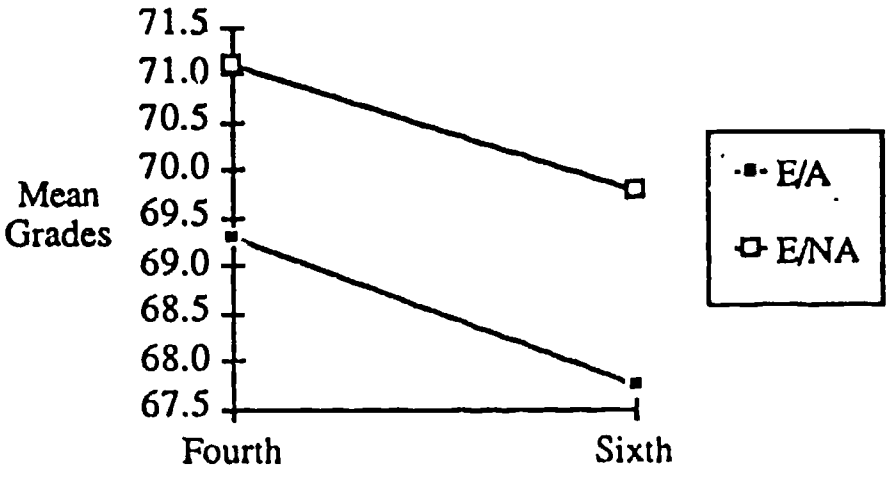
Observations:

- RAP had no effect in helping students mean 6th grading period social studies grades.
- Non–eligible students attending RAP maintained their 4th to 6th grading period social studies grades as a result of attending the tutorials.

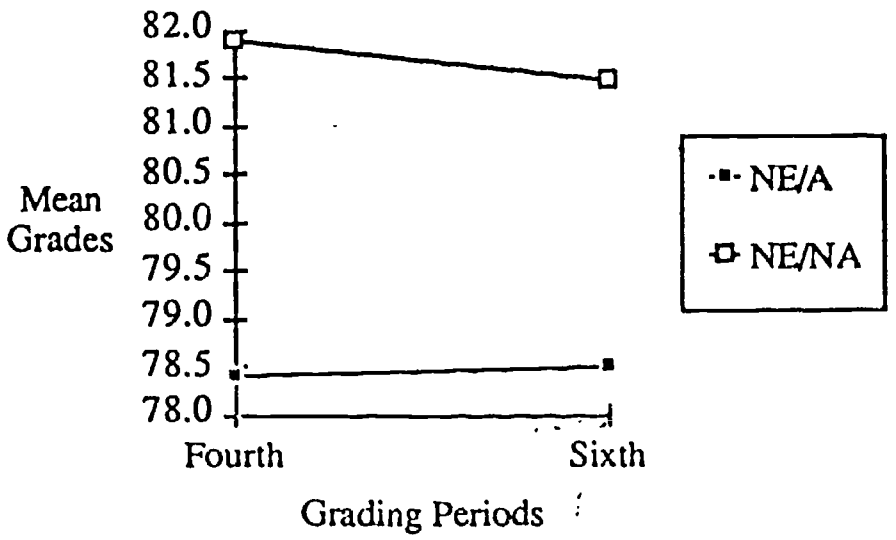
RESEARCH QUESTION 9d

Was there a difference in the Science grades of those students attending and those students not attending RAP?

Comparison of Eligible/Attending (EA) and Eligible/Non–Attending (ENA) in Science



Comparison of Non–Eligible Attending (NEA) and Non–Eligible Non–Attending (NENA) in Science



Observations:

- RAP had no effect in helping eligible students improve their 6th grading period science grades.
- Non–eligible students attending RAP maintained their 4th to 6th grading period science grades as a result of attending the tutorials.

RECOMMENDATIONS

Although, the program was not successful in improving the grades of the targeted students, a benefit was noted for the non–targeted students who attended RAP. Of singular importance was the downward trend of grades from the fourth to sixth grading period for each group except those who were not eligible for RAP but still attended at least one session. It is our impression that House Bill 72 requires a school district to provide tutorials, but does not specify what students should be targeted. Thus, these data document the adequacy of a tutorial program to improve student performance for students that are motivated to improve their skills and grades, and have demonstrated a certain level of academic competence prior to receiving tutorial assistance. Given the results of this analysis, a proposed avenue the district should investigate concerning the RAP program is to redefine the program and encourage a more diversified student participation. It is our belief that the program should be aimed more towards those students who realize the importance of an education and are willing to act on that belief.

It is also important to inspect RAP attendance patterns by schools. The fact that 9 schools account for 82% of the total number of RAP eligible students who attended at least one tutorial, and 13 schools had practically no students in RAP attendance, suggests that the program did not meet the targeted audience.

Future research should include an inspection of RAP attendance patterns by school, subject, and grade. Also, it seems critical to longitudinally inspect the achievement patterns of all high school students with regards to RAP attendance.

Appendix A

The purpose of this section is to explain the theoretical basis of why certain statistical steps were taken. The steps taken in the statistical analysis were to:

- Conduct an ANCOVA where the 6th grading period grades were adjusted for the effects of the 4th grading period grades. ANCOVA is a statistical procedure whereby the researcher introduces one or more variables into the equation for the sole purpose of control. The experimenter exercises control in the design by introducing a factor or factors as controls. In ANCOVA the study is conducted by partialling out the effects of the factor from the dependent variable. In the current study, 4th 6 week teacher assigned grades were used as the covariate. This design allows the researcher to identify the effects of the RAP program on students grades (Davis and Cosenza, 1985).

- Conduct a Oneway ANOVA to see if there were significant differences between the groups with regards to the adjusted 6th grading period grades. If the F test leads to the conclusion that the factor level means differ, the implication is that there is a relation between the factor and the dependent variable. In that case, a thorough analysis of the factor level effects is usually undertaken. This is done in two principle ways: (1) A direct analysis of the factor level effects of interest using estimation techniques and (2) Statistical tests in regard to the factor level effects of interest (Neter, Wasserman, and Kutner, 1985). This can be accomplished using either a Duncan's Multiple Range Test or Sheffe's test. These test will be beneficial in that they will explain exactly where the differences are occurring.

- Compute an Omega Squared coefficient. Omega Squared is the proportion of variance in the dependent variable accounted for by the independent variable, producing an estimate of treatment effect (Davis and Cosenza, 1985).

*The omega squared statistic is a method for estimating the strength of associations between the independent and dependent variable elements in a multivariate statistical model; it is similar to a correlation coefficient. There are a variety of ways for doing this and each has its respective limitations, but this approach has as much to offer as any of the others. For a detailed review, see Hayes, William L. *Statistics for the Social Sciences*. New York: Holt, Rinehart and Winston, Incorporated; pages 417 and 485-487.

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Appendix B

RAP Eligible Students By Campus and Ethnicity

	Ethnicity											
	Asian		Black		Hispanic		Indian		White		Total	
Campus	n	%	n	%	n	%	n	%	n	%	n	%
Austin	9	0.1	65	0.4	1456	8.3	1	0.0	44	0.3	1575	9.0
Bellaire	28	0.2	212	1.2	298	1.7	0	0.0	294	1.7	832	4.8
Davis	11	0.1	95	0.5	471	2.7	0	0.0	9	0.1	586	3.4
Furr	4	0.0	174	1.0	241	1.4	1	0.0.	25	0.1	445	2.6
Sam Houston	10	0.1	187	1.1	852	4.9	1	0.0	223	1.3	1273	7.3
Jones	9	0.1	488	2.8	29	0.2	0	0.0	14	0.1	540	3.1
Kashmere	0	0.0	648	3.7	9	0.1	0	0.0	0	0.0	657	3.8
Lamar	11	0.1	289	1.7	270	1.5	1	0.0	264	1.4	835	4.8
Lee	38	0.2	197	1.1	487	2.8	0	0.0	281	1.6	1003	5.7
Madison	8	0.0	643	3.7	145	0.8	2	0.0	14	0.1	812	4.7
Milby	19	0.1	151	0.9	1138	6.5	1	0.0	126	0.7	1435	8.2
Reagan	2	0.0	120	0.7	581	3.3	0	0.0	74	0.4	777	4.5
Comm. Ser.	0	0.0	9	0.1	0	0.0	0	0.0	1	0.0	10	0.1
Sterling	6	0.0	572	3.3	27	0.2	0	0.0	21	0.1	626	3.6
Waltrip	5	0.0	212	1.2	247	1.4	1	0.0	162	0.9	627	3.6
Washington	4	0.0	527	3.0	21	0.1	1	0.0	7	0.0	560	3.2
Westbury	20	0.1	364	2.1	112	0.6	1	0.0	143	0.8	640	3.7
Wheatley	0	0.0	283	1.6	207	1.2	0	0.0	3	0.0	493	2.8
Worthing	2	0.0	446	2.6	2	0.0	0	0.0	0	0.0	450	2.6
Yates	11	0.1	881	5.0	8	0.0	1	0.0	4	0.0	905	5.2
Foley's	0	0.0	0	0.0	2	0.0	0	0.0	0	0.0	2	0.0
Sharpstown	51	0.3	218	1.2	175	1.0	1	0.0	234	1.3	679	3.9
Scarborough	5	0.0	99	0.6	122	0.7	1	0.0	135	0.8	362	2.1
HSPVA	3	0.0	38	0.2	24	0.1	1	0.0	44	0.3	110	0.6
Health Prof.	12	0.1	74	0.4	35	0.2	1	0.0	16	0.1	138	0.8
CLC	0	0.0	42	0.2	1	0.0	0	0.0	0	0.0	43	0.2
Ongoing	0	0.0	43	0.2	15	0.1	0	0.0	1	0.0	59	0.3
Harris County	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Houston Night	0	0.0	19	0.1	37	0.2	0	0.0	5	0.0	61	0.3
Jordan	1	0.0	438	2.5	111	0.6	0	0.0	13	0.1	563	3.2
Law Enfor.	0	0.0	57	0.3	112	0.6	0	0.0	34	0.2	203	1.2
COTC	0	0.0	63	0.4	6	0.0	0	0.0	1	0.0	70	0.4
Harris Det.	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
HP Carter	0	0.0	32	0.2	30	0.2	0	0.0	3	0.0	65	0.4
Harper	0	0.0	4	0.0	2	0.0.	0	0.0	0	0.0	6	0.0
Total	**270**	**1.5**	**7696**	**44.1**	**7273**	**41.7**	**15**	**0.1**	**2196**	**12.6**	**17450**	**100.0**

*3 Missing Observations

Appendix C

RAP Eligible/Attending Students By Campus and Ethnicity

	Ethnicity											
	Asian		Black		Hispanic		Indian		White		Total	
Campus	n	%	n	%	n	%	n	%	n	%	n	%
Austin	0	0.0	1	0.1	25	2.3	0	0.0	0	0.0	26	2.4
Bellaire	1	0.1	6	0.6	15	1.4	0	0.0	10	0.9	32	3.0
Davis	0	0.0	0	0.0	2	0.2	0	0.0	0	0.0	2	0.2
Furr	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
Sam Houston	2	0.2	30	2.8	98	9.1	0	0.0	37	3.5	167	15.6
Jones	0	0.0	23	2.1	0	0.0	0	0.0	0	0.0	23	2.1
Kashmere	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
Lamar	0	0.0	7	0.7	5	0.5	1	0.1	1	0.1	14	1.3
Lee	2	0.2	36	3.4	175	16.3	0	0.0	47	4.4	260	24.3
Madison	0	0.0	3	0.3	2	0.2	0	0.0	0	0.0	5	0.5
Milby	1	0.1	20	1.9	122	11.4	0	0.0	17	1.6	160	14.9
Reagan	0	0.0	17	1.6	79	7.4	0	0.0	6	0.6	102	9.5
Sterling	0	0.0	27	2.5	0	0.0	0	0.0	0	0.0	27	2.5
Waltrip	0	0.0	6	0.6	7	0.7	0	0.0.	7	0.1	14	1.3
Washington	1	0.1	15	1.4	6	0.6	0	0.0	0	0.0.	22	2.1
Westbury	2	0.2	5	0.5	3	0.3	0	0.0	1	0.1	11	1.0
Worthing	0	0.0	48	4.5	0	0.0	0	0.0	0	0.0	48	4.5
Yates	0	0.0	7	0.7	0	0.0	0	0.0	0	0.0	7	0.7
Sharpstown	1	0.1	39	3.6	47	4.4	0	0.0	25	2.3	112	10.4
Scarborough	0	0.0	0	0.0	2	0.2	0	0.0	0	0.0	2	0.2
HSPVA	0	0.0	4	0.4	4	0.4	0	0.0.	0	0.0	8	0.7
Health Prof.	1	0.1	10	0.9	2	0.2	0	0.0	0	0.0	13	1.2
CLC	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
Ongoing	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Jordan	0	0.0	6	0.6	2	0.2	0	0.0	0	0.0	8	0.7
Law Enfor.	0	0.0	1	0.1	4	0.4	0	0.0	1	0.1	6	0.6
Total	**11**	**1.0**	**313**	**29.2**	**601**	**56.1**	**1**	**0.1**	**146**	**13.6**	**1072**	**100.0**

Appendix D

RAP Non-Eligible/Attending Students By Campus and Ethnicity

	Ethnicity											
	Asian		Black		Hispanic		Indian		White		Total	
Campus	n	%	n	%	n	%	n	%	n	%	n	%
Austin	0	0.0	0	0.0	3	0.4	0	0.0	2	0.3	5	0.7
Bellaire	1	0.1	2	0.3	4	0.6	0	0.0	1	0.1	8	1.1
Davis	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Furr	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Sam Houston	3	0.4	30	4.2	99	13.8	0	0.0	27	3.8	159	22.2
Jones	0	0.0	9	1.3	2	0.3	0	0.0	0	0.0	11	1.5
Kashmere	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Lamar	0	0.0	2	0.3	0	0.0	0	0.0	1	0.1	3	0.4
Lee	8	1.1	18	2.5	94	13.1	0	0.0	63	8.8	183	25.5
Madison	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	2	0.3
Milby	4	0.6	13	1.8	72	10.	0	0.0	9	1.3	98	13.7
Reagan	4	0.6	9	1.3	32	4.5	0	0.0	4	0.6	49	6.8
Sterling	0	0.0	14	2.0	0	0.0	0	0.0	0	0.0	14	2.0
Waltrip	0	0.0	1	0.1	1	0.1	0	0.0	0	0.0	2	0.3
Washington	0	0.0	7	1.0	1	0.1	0	0.0	0	0.0	8	1.1
Westbury	0	0.0	2	0.3	0	0.0	0	0.0	1	0.1	3	0.4
Worthing	0	0.0	124	17.3	0	0.0	0	0.0	0	0.0	124	17.3
Yates	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0	1	0.1
Sharpstown	2	0.3	2	0.3	14	2.0	0	0.0	7	1.0	25	3.5
Scarborough	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
HSPVA	0	0.0	2	0.3	0	0.0	0	0.0	0	0.0	2	0.3
Health Prof.	0	0.0	4	0.6	3	0.4	0	0.0	1	0.1	8	1.1
CLC	0	0.0	2	0.3	0	0.0	0	0.0	0	0.0	2	0.3
On-going	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
Night School	0	0.0	0	0.0	1	0.1	0	0.0	0	0.0	1	0.1
Jordan	0	0.0	4	0.6	0	0.0	0	0.0	1	0.1	5	0.7
Law Enfor.	0	0.0	0	0.0	2	0.3	0	0.0	0	0.0	2	0.3
Total	**22**	**3.1**	**247**	**34.4**	**331**	**46.2**	**0**	**0.0**	**117**	**16.3**	**717**	**100.0**